

CLAIMS

1. A bearing calculator having
a geomagnetic sensor for detecting earth-geomagnetism
and

5 a control unit for calculating a geographical bearing
based on detection values of the geomagnetic sensor,
wherein

said control unit can execute a offset error
correction processing for correcting offset error to said
10 geomagnetic sensor due to a change of magnetic field in the
bearing calculator and,

when detection values of said geomagnetic sensor
become abnormal state, performs said offset error
correction processing if the abnormal state continues for a
15 predetermined time, and does not perform the offset error
correction processing if the abnormal state ends within a
predetermined time.

2. A bearing calculator as set forth in claim 1, wherein
said calculator is further provided with a display
20 unit, and

said control unit calculates a geographical bearing
based on detection values of said geomagnetic sensor and
controls said display unit to display information of said
calculated bearing.

25 3. A bearing calculator as set forth in claim 1, wherein

said geomagnetic sensor detects earth-geomagnetism in a plurality of mutually perpendicular directions, and

said control unit does not perform said offset error correction processing if said predetermined time is not
5 required from when at least one of the detection values of the earth-geomagnetism in said plurality of directions becomes a predetermined abnormal state to when all of the detection values of the earth-geomagnetism in said plurality of directions are no longer in said abnormal
10 state.

4. A bearing calculator as set forth in claim 3, wherein said abnormal state is a state where the detection value of said geomagnetic sensor is outside a range determined as normal.

15 5. A bearing calculator as set forth in claim 3, wherein said geomagnetic sensor converts an analog signal of earth-geomagnetism to a digital signal and outputs it as a detection value of the earth-geomagnetism, and said predetermined abnormal state is a state where the
20 detection value of said geomagnetic sensor becomes a maximum value or a minimum value of said digital signal.

6. A bearing calculator as set forth in claim 2, wherein said control unit controls said display unit to display information showing that the precision of information of
25 the bearing is low and/or processing for correction of said

information of the bearing is being executed while performing offset error correction processing on the information of the bearing.

7. A bearing calculator as set forth in claim 6, wherein
5 said control unit displays a pictograph indicating a specific bearing as said information of the bearing and makes the display mode of said pictograph different from the case where the state is not said abnormal state so as to show that the precision of information of the bearing is
10 low and/or processing for correction of said information of the bearing is being executed.

8. A bearing calculator as set forth in claim 6, wherein said control unit makes said display unit display information showing that the precision of the information
15 of the bearing has been restored and/or the offset error correction processing of the information of the bearing has been completed when the offset error correction processing of the information of the bearing has been completed.

9. A bearing calculator as set forth in claim 7, wherein
20 said control unit makes the mode of display of said pictograph the same as the case where the state is not said abnormal state so as to show that the precision of the information of the bearing has been restored and/or the offset error correction processing of the information of
25 the bearing has been completed when the offset error

correction processing of the information of the bearing has been completed.

10. A bearing calculator as set forth in claim 2, wherein said calculator has a position information acquiring

5 unit for acquiring information relating to a geographical location of a current position, and

said control unit

performs first display processing for acquiring a peripheral map of a current position specified based on
10 position information acquired at said position information acquiring unit and controlling rotation of the direction of said map on a display screen of said display unit in accordance with said calculated bearing and

performs second display processing for stopping said
15 rotation control and fixing a predetermined bearing of said map at a predetermined direction on said display screen when detection values of said geomagnetic sensor enter said abnormal state and said abnormal state continues for said predetermined time during said first display processing.

20 11. A bearing calculator as set forth in claim 10, wherein said control unit restarts said rotation control when said offset error correction processing has been completed after stopping said rotation control.

12. An error correction method in a bearing calculator
25 provided with a geomagnetic sensor for detecting earth-

geomagnetism and a control unit for calculating a geographical bearing based on detection values of said geomagnetic sensor, comprising

an offset error correction processing step of
5 correcting an offset error to said geomagnetic sensor due to a change of magnetic field in the bearing calculator;

an abnormal state detection step of detecting that detection values of said geomagnetic sensor become abnormal; and

10 a judgment step of judging whether or not an abnormal state continues for a predetermined time when the abnormal state is detected at said abnormal state detection step, wherein

said offset error correction processing step is
15 carried out when it is judged in said judgment step that said abnormal state continues for a predetermined time, while said offset error correction processing step is not carried out when it is judged that said abnormal state does not continue for said predetermined time.